



5.6 Relative prices and exchange rates

	Exchange rate arrangements		Official exchange rate	Ratio of official to parallel exchange rate	Real effective exchange rate	Purchasing power parity conversion factor		Interest rate			Food prices in PPP terms	
	Classification 1998	Structure 1998	local currency units to \$ 1998	1998	1995 = 100 1998	local currency units to international \$ 1990	1998	Deposit % 1998	Lending % 1998	Real % 1998	Bread and cereals 1998	Meat 1998
Albania	IF	U	150.6	0.9	..	1.9	49.2	16.8	24.0	8.2	42	92
Algeria	MF	U	58.7	0.4	115.1	4.9	19.4	..	..	..	..	..
Angola	P	U	392,823.5	0.7	..	0.0	134,824.4	36.9	45.0	-9.9	..	..
Argentina	CB	U	1.0	1.0	..	0.3	0.7	7.6	10.6	12.9	92	136
Armenia	IF	U	504.9	..	111.5	0.0	121.9	24.9	48.5	33.5	55	106
Australia	IF	U	1.6	1.0	96.9	1.4	1.4	4.7	8.0	7.4	94	73
Austria	Euro	U	12.4	1.0	94.6	12.9	14.0	2.7	6.4	5.3	114	163
Azerbaijan	MF	U	3,869.0	..	..	0.1	926.1	..	..	..	47	108
Bangladesh	P	U	46.9	0.9	..	9.4	11.3	8.4	14.0	8.3	41	54
Belarus	MF	M	25,964.1	..	..	0.1	10,237.2	14.3	27.0	-27.1	..	..
Belgium	Euro	U	36.3	1.0	93.4	35.5	38.0	3.0	7.3	6.3	116	161
Benin	FF	U	590.0	..	..	157.0	263.8	3.5	..	..	55	89
Bolivia	P	U	5.5	1.0	114.9	1.3	2.6	12.8	39.4	29.4	54	87
Bosnia and Herzegovina	CB	U	..	..	..	..	..	..	..	..	..	..
Botswana	P	D	4.2	1.0	..	1.1	2.2	8.7	13.5	5.2	49	65
Brazil	IF	U	1.2	1.0	..	0.0	0.8	28.0	..	..	93	138
Bulgaria	CB	U	1,760.4	1.0	122.7	1.0	543.4	3.0	13.3	-7.3	180	391
Burkina Faso	FF	U	590.0	..	..	125.6	163.1	3.5	..	..	..	..
Burundi	P	U	447.8	0.8	111.8	50.0	106.3	..	..	..	..	..
Cambodia	MF	D	3,744.4	0.9	..	68.0	743.8	7.8	18.3	1.2	..	..
Cameroon	FF	U	590.0	..	103.8	187.8	248.5	5.0	22.0	20.6	58	86
Canada	IF	U	1.5	1.0	98.6	1.2	1.2	5.0	6.6	7.2	68	78
Central African Republic	FF	U	590.0	1.0	96.4	129.9	160.2	5.0	22.0	19.9	..	..
Chad	FF	U	590.0	..	..	109.7	160.2	5.0	22.0	17.2	..	..
Chile	P	D	460.3	0.9	111.1	146.7	269.7	14.9	20.2	14.3	91	147
China	P	U	8.3	1.0	112.4	1.2	2.1	3.8	6.4	7.5	93	175
Hong Kong, China	CB	U	7.7	1.0	..	6.4	9.3	6.6	9.0	7.8	..	..
Colombia	P	U	1,426.0	0.9	112.5	119.7	599.0	32.6	42.2	21.0	..	..
Congo, Dem. Rep.	IF	U	..	..	126.8	0.0	22,675.9	..	..	..	..	..
Congo, Rep.	FF	U	590.0	..	..	340.9	417.9	5.0	22.0	46.8	112	164
Costa Rica	P	U	257.2	1.0	104.9	37.9	127.7	12.8	22.5	9.1	..	..
Côte d'Ivoire	FF	U	590.0	..	105.6	180.2	280.3	3.5	..	..	68	102
Croatia	P	U	6.4	0.7	105.3	0.0	4.6	4.6	15.8	6.2	98	173
Cuba	..	..	..	..	..	..	..	..	..	..	..	..
Czech Republic	MF	U	32.3	1.0	116.3	4.9	14.3	8.1	12.8	1.7	40	78
Denmark	P	U	6.7	1.0	98.3	8.9	9.1	3.1	7.9	6.4	156	210
Dominican Republic	MF	D	15.3	1.0	105.4	2.7	6.4	17.6	25.6	19.8	..	..
Ecuador	IF	U	5,446.6	0.9	107.7	304.7	2,734.7	39.4	49.5	18.9	69	131
Egypt, Arab Rep.	P	M	3.4	1.0	..	0.8	1.5	9.4	13.0	9.1	40	74
El Salvador	P	U	8.8	0.9	..	2.5	4.3	10.3	15.0	12.1	..	..
Eritrea	IF	U	..	..	..	..	1.5	..	..	..	..	..
Estonia	CB	U	14.1	0.8	..	0.1	6.6	8.1	16.7	6.6	47	80
Ethiopia	MF	U	7.1	1.0	..	0.7	1.3	6.0	10.5	0.7	..	..
Finland	Euro	U	5.3	1.0	93.1	6.0	6.1	2.0	5.3	3.9	147	156
France	Euro	U	5.9	1.0	96.0	6.6	6.8	3.2	6.6	6.3	125	157
Gabon	FF	U	590.0	..	100.7	315.7	373.7	5.0	22.0	33.5	111	148
Gambia, The	IF	U	10.6	1.0	102.0	2.0	2.5	12.5	25.4	23.2	..	..
Georgia	IF	U	1.4	..	135.7	0.0	0.4	17.0	46.0	41.2	46	101
Germany	Euro	U	1.8	1.0	92.5	..	2.1	2.9	9.0	8.1	145	187
Ghana	IF	U	2,314.1	1.0	125.2	92.7	542.0	32.0	..	..	..	..
Greece	P	U	295.5	1.0	102.5	117.1	243.3	10.7	18.6	12.7	104	102
Guatemala	IF	U	6.4	1.0	..	1.4	3.2	5.4	16.6	9.2	..	..
Guinea	IF	U	1,236.8	1.0	..	228.5	370.6	..	..	..	44	71
Guinea-Bissau	FF	U	590.0	..	..	12.0	169.7	4.6	51.8	2.1	..	..
Haiti	IF	U	16.8	0.7	..	1.4	6.2	13.1	23.6	9.7	..	..
Honduras	P	D	13.4	1.0	..	1.3	4.8	18.6	30.7	15.0	..	..



Relative prices and exchange rates 5.6

	Exchange rate arrangements		Official exchange rate	Ratio of official to parallel exchange rate	Real effective exchange rate	Purchasing power parity conversion factor		Interest rate			Food prices in PPP terms	
	Classification 1998	Structure 1998	local currency units to \$	1998	1995 = 100 1998	local currency units to international \$		Deposit % 1998	Lending % 1998	Real % 1998	U.S. price = 100	
			1998			1990	1998				Bread and cereals 1998	Meat 1998
Hungary	P	U	214.4	1.0	105.8	22.4	99.0	18.5	21.8	2.8	52	73
India	IF	U	41.3	1.0	..	4.9	8.9	..	13.5	4.3	..	..
Indonesia	IF	D	10,013.6	0.9	..	636.7	1,745.9	39.1	32.2	-23.6	41	94
Iran, Islamic Rep.	P	M	1,751.9	0.4	206.1	177.4	1,040.3	..	..	..	79	151
Iraq	P	U	0.3	0.0	..	..	..	..	..	..	..	..
Ireland	Euro	U	0.7	1.0	97.0	0.7	0.7	0.4	6.2	3.7	80	103
Israel	P	U	3.8	1.0	109.9	1.7	3.6	11.0	16.2	10.2	143	184
Italy	Euro	U	1,736.2	1.0	113.2	1,359.6	1,716.3	3.2	7.9	4.9	101	135
Jamaica	MF	U	36.5	0.9	..	4.0	26.5	15.6	34.7	28.3	86	175
Japan	IF	U	130.9	1.0	78.9	182.6	168.4	0.3	2.3	2.0	231	398
Jordan	P	U	0.7	1.0	..	0.4	0.3	9.1	12.3	8.3	60	85
Kazakhstan	MF	U	78.3	0.9	..	0.0	25.2	..	..	..	38	57
Kenya	MF	U	60.4	0.9	..	8.9	24.4	18.4	29.5	17.1	50	77
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	IF	U	1,401.4	1.0	..	485.2	718.3	13.3	15.3	9.5	201	319
Kuwait	P	U	0.3	1.0	..	..	..	6.3	8.9	..	..	..
Kyrgyz Republic	MF	U	20.8	..	..	0.0	3.3	35.8	73.4	55.6	47	79
Lao PDR	MF	D	3,298.3	0.9	..	133.1	482.2	17.8	29.3	-29.7	..	..
Latvia	P	U	0.6	0.9	..	0.0	0.3	5.3	14.3	2.7	51	99
Lebanon	P	U	1,516.1	1.0	..	270.5	1,434.0	13.6	20.3	10.9	93	106
Lesotho	P	U	5.5	1.0	85.2	0.9	1.3	10.7	20.1	15.8	..	..
Libya	P	U	0.4	0.2	..	..	..	..	..	..	..	..
Lithuania	CB	U	4.0	0.9	..	0.0	1.8	6.0	12.2	5.3	39	82
Macedonia, FYR	P	U	54.5	0.8	72.3	..	22.6	11.7	21.0	19.8	74	110
Madagascar	IF	U	5,441.4	1.0	..	505.1	1,849.4	8.0	27.0	16.8	49	67
Malawi	MF	U	31.1	0.9	111.2	1.2	9.5	19.1	37.7	11.8	51	67
Malaysia	P	U	3.9	1.0	80.9	1.2	1.6	8.5	10.6	1.4	..	..
Mali	FF	U	590.0	..	..	137.5	220.7	3.5	..	..	55	80
Mauritania	MF	U	188.5	1.0	..	35.5	47.5	..	..	..	..	..
Mauritius	IF	U	24.0	1.0	..	6.8	9.9	9.3	19.9	13.6	65	113
Mexico	IF	U	9.1	1.0	..	1.4	5.1	13.8	28.7	12.9	52	63
Moldova	IF	U	5.4	..	106.9	..	1.0	21.7	30.8	21.1	37	75
Mongolia	IF	U	840.8	1.0	..	2.8	220.0	24.3	40.0	25.6	36	40
Morocco	P	U	9.6	1.0	105.1	3.2	3.7	..	..	..	68	133
Mozambique	IF	U	11,874.6	0.9	..	309.9	3,478.9	..	..	..	..	..
Myanmar	P	D	6.3	..	..	..	..	12.5	16.5	-13.0	..	..
Namibia	P	U	5.5	1.0	..	1.1	2.0	12.9	20.7	8.3	..	..
Nepal	P	U	66.0	0.9	..	6.4	11.2	8.9	14.0	10.4	33	68
Netherlands	Euro	U	2.0	1.0	94.5	2.0	2.2	3.1	6.5	3.5	106	176
New Zealand	IF	U	1.9	1.0	94.4	1.5	1.5	6.8	11.2	9.8	97	95
Nicaragua	P	U	10.6	1.0	103.6	0.1	2.2	10.8	21.6	7.7	..	..
Niger	FF	U	590.0	..	..	121.5	161.1	3.5	..	..	..	..
Nigeria	MF	U	21.9	0.2	155.7	3.9	37.9	7.3	20.4	8.9	249	351
Norway	MF	U	7.5	1.0	98.2	9.3	9.4	7.2	7.9	8.5	159	235
Oman	P	U	0.4	1.0	..	..	..	8.5	10.1	..	70	98
Pakistan	MF	M	44.5	0.9	98.1	6.0	12.1	..	..	..	34	60
Panama	Other	U	1.0	..	..	0.6	0.6	6.8	10.8	9.3	62	126
Papua New Guinea	IF	U	2.1	0.6	92.4	0.5	0.7	13.7	17.7	6.7	..	..
Paraguay	MF	U	2,755.7	0.9	99.4	395.9	1,060.1	15.9	30.0	14.2	..	..
Peru	IF	U	2.9	1.0	..	0.1	1.7	15.1	30.8	23.9	85	158
Philippines	IF	U	40.9	1.0	88.8	5.6	10.0	12.1	16.8	5.7	46	89
Poland	P	U	3.5	1.0	117.7	0.3	1.9	18.2	24.5	11.1	50	73
Portugal	Euro	U	180.1	1.0	99.3	91.5	131.1	3.4	7.2	3.0	85	116
Puerto Rico	..	..	..	..	..	..	..	..	..	..	..	..
Romania	MF	U	8,875.6	0.9	..	6.1	2,664.8	..	..	..	29	61
Russian Federation	MF	M	9.7	0.7	114.2	0.0	2.8	17.0	41.8	27.1	52	77



5.6 Relative prices and exchange rates

	Exchange rate arrangements		Official exchange rate	Ratio of official to parallel exchange rate	Real effective exchange rate	Purchasing power parity conversion factor		Interest rate			Food prices in PPP terms	
	Classification 1998	Structure 1998	local currency units to \$ 1998	1998	1995 = 100 1998	local currency units to international \$ 1990	1998	Deposit % 1998	Lending % 1998	Real % 1998	Bread and cereals 1998	Meat 1998
Rwanda	IF	U	312.3	0.5	..	..	..	8.5	..	..	..	..
Saudi Arabia	P	U	3.7	1.0	111.3	2.5	2.3	6.2	..	..	..	..
Senegal	FF	U	590.0	..	..	184.9	233.9	3.5	..	..	65	113
Sierra Leone	IF	U	1,563.6	0.8	99.5	44.9	464.5	7.1	23.8	-2.5	54	72
Singapore	MF	U	1.7	1.0	101.8	1.8	1.8	4.6	7.4	9.1	81	141
Slovak Republic	MF	U	35.2	0.9	102.3	6.1	13.7	16.3	21.2	15.3	49	84
Slovenia	MF	U	166.1	0.9	..	..	114.5	10.5	16.1	8.1	71	117
South Africa	IF	U	5.5	1.0	89.4	1.0	2.1	16.5	21.8	12.9	..	..
Spain	Euro	U	149.4	1.0	97.4	103.8	129.5	2.9	5.0	2.7	89	91
Sri Lanka	P	U	64.6	1.0	..	9.4	18.1	13.0	6.0	-2.6	39	68
Sudan	IF	U	2,008.0	..	..	7.4	543.6	..	..	..	..	..
Sweden	IF	U	7.9	1.0	100.1	9.1	9.9	1.9	5.9	5.3	151	179
Switzerland	IF	U	1.4	1.0	91.1	2.0	2.1	0.7	4.1	3.0	162	274
Syrian Arab Republic	P	M	11.2	0.2	..	9.3	18.8	..	..	..	314	298
Tajikistan	MF	U	776.6	..	..	0.0	161.0	..	..	..	30	40
Tanzania	IF	U	664.7	0.9	..	65.7	331.4	7.8	26.7	8.0	54	74
Thailand	IF	U	41.4	1.0	..	10.3	13.8	10.6	14.4	5.2	61	105
Togo	FF	U	590.0	..	109.4	91.7	145.6	3.5	..	..	..	..
Trinidad and Tobago	IF	U	6.3	1.0	106.0	3.0	4.2	8.0	17.3	10.0	62	106
Tunisia	P	U	1.1	1.0	100.5	0.3	0.4	..	..	..	66	115
Turkey	P	U	260,724.3	..	..	1,501.8	126,696.2	80.1	..	..	52	87
Turkmenistan	P	U	5,277.0	..	..	0.0	935.3	..	..	..	13	32
Uganda	IF	U	1,240.3	0.9	94.6	117.2	347.1	11.4	20.9	9.1	..	..
Ukraine	P	U	2.4	0.9	130.3	0.0	0.6	22.3	54.5	36.5	27	68
United Arab Emirates	P	U	3.7	..	..	3.4	3.6	..	..	..	..	..
United Kingdom	IF	U	0.6	1.0	128.1	0.6	0.7	4.5	7.2	4.6	90	128
United States	IF	U	1.0	..	120.0	1.0	1.0	..	8.4	7.3	100	100
Uruguay	P	U	10.5	1.0	108.8	0.5	7.7	15.1	57.9	42.6	94	113
Uzbekistan	MF	M	..	..	..	..	27.5	..	..	..	..	..
Venezuela, RB	P	U	547.6	1.0	135.5	23.3	385.4	34.8	46.4	20.7	58	95
Vietnam	MF	U	11,359.4	1.0	..	481.7	2,797.4	9.9	15.2	2.7	25	54
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	IF	U	135.9	1.0	..	15.7	61.5	..	..	..	111	208
Yugoslavia, FR (Serb./Mont.)	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	IF	M	1,862.1	0.8	114.5	19.8	897.5	13.1	31.8	7.0	71	95
Zimbabwe	IF	U	23.7	..	..	0.9	4.3	29.1	42.1	9.5	42	56

Note: Exchange rate arrangements are given for the end of the year in 1998. Exchange rate classifications include independent floating (IF), managed floating (MF), pegged (P), currency board (CB), and several exchange arrangements (euro means that the euro is used, FF that the currency is pegged to the French franc, and other that the currency of another country is used as legal tender). Exchange rate structures include dual exchange rates (D), multiple exchange rates (M), and unitary rate (U).



Relative prices and exchange rates 5.6

About the data

In a market-based economy the choices households, producers, and governments make about the allocation of resources are influenced by relative prices, including the real exchange rate, real wages, real interest rates, and commodity prices. Relative prices also reflect, to a large extent, the choices of these agents. Thus relative prices convey vital information about the interaction of economic agents in an economy and with the rest of the world.

The exchange rate is the price of one currency in terms of another. Official exchange rates and exchange rate arrangements are established by governments (other exchange rates fully recognized by governments include market rates, which are determined largely by legal market forces, and, for countries maintaining multiple exchange arrangements, principal rates, secondary rates, and tertiary rates). Parallel, or black market, exchange rates reflect unofficial rates negotiated by traders and are by nature difficult to measure. Parallel exchange rate markets often account for only a small share of transactions and so may be both thin and volatile. But in countries with weak policies and financial systems they often represent the “going” rate. The parallel rates used here are collected by Currency Data & Intelligence from a variety of sources, some within the country and some outside but doing business with entities based in the country.

Real effective exchange rates are derived by deflating a trade-weighted average of the nominal exchange rates that apply between trading partners. For most industrial countries the weights are based on trade in manufactured goods with other industrial countries during 1989–91, and an index of relative, normalized unit labor costs is used as the deflator. (Normalization smooths a time series by removing short-term fluctuations while retaining changes of a large amplitude over the longer economic cycle.) For other countries, prior to 1990, the weights take into account trade in manufactured and primary products during 1980–82; from January 1990 onward weights are based on trade in manufactured and primary products during 1988–90, and an index of relative changes in consumer prices is used as the deflator. An increase in the real effective exchange rate represents an appreciation of the local currency. Because of conceptual and data limitations, changes in real effective exchange rates should be interpreted with caution.

The official or market exchange rate is often used to compare prices in different currencies, but because market imperfections are extensive and exchange rates reflect at best the relative prices of tradable goods, the volume of goods and services that a U.S.

dollar buys in the United States may not correspond to what a U.S. dollar converted to another country's currency at the official exchange rate would buy in that country. The alternative approach is to convert national currency estimates of GNP to a common currency by using conversion factors that reflect equivalent purchasing power. Purchasing power parity (PPP) conversion factors are based on price and expenditure surveys conducted by the International Comparison Programme (ICP) and represent the conversion factors applied to equalize price levels across countries. See *About the data* for tables 4.11 and 4.12 for further discussion of the PPP conversion factor.

Many interest rates coexist in an economy, reflecting competitive conditions, the terms governing loans and deposits, and differences in the position and status of creditors and debtors. In some economies interest rates are set by regulation or administrative fiat. In economies with imperfect markets or where reported nominal rates are not indicative of effective rates, it may be difficult to obtain data on interest rates that reflect actual market transactions. Deposit and lending rates are collected by the International Monetary Fund (IMF) as representative interest rates offered by banks to resident customers. The terms and conditions attached to these rates differ by country, however, limiting their comparability. Real interest rates are calculated by adjusting nominal rates by an estimate of the inflation rate in the economy. A negative real interest rate indicates a loss in the purchasing power of the principal. The real interest rates in the table are calculated as $(i - P) / (1 + P)$, where i is the nominal interest rate and P is the inflation rate (as measured by the GDP deflator).

The table also shows price levels for bread and cereals (including barley, maize, rice, wheat, and others) and for meat (including beef, pork, fish, and poultry) in PPP terms. These price levels are expressed relative to the corresponding price level in the United States. They are the ratio of the PPP of the good to the relevant exchange rate, usually the U.S. dollar. A price level of more than 100 indicates that the item is more expensive in the country than in the United States.

Definitions

- **Exchange rate arrangement** describes the arrangement that an IMF member country has furnished to the IMF under article IV, section 2(a) of the IMF's Articles of Agreement. *Exchange rate classification* indicates how the exchange rate is determined in the main market when there is more than one market: floating (managed or independent), pegged (conventional, within horizontal bands, crawling peg, or crawling band), currency board (implicit legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate), and exchange arrangement (country is adopting the euro, currency is pegged to the French franc, or another country's currency is used as legal tender). *Exchange rate structure* shows whether countries have unitary, dual, or multiple exchange rates.
- **Official exchange rate** refers to the exchange rate determined by country authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar).
- **Ratio of official to parallel exchange rate** measures the premium people must pay, relative to the official exchange rate, to exchange the domestic currency for U.S. dollars in the black market.
- **Real effective exchange rate** is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.
- **Purchasing power parity conversion factor** is the number of units of a country's currency required to buy the same amount of goods and services in the domestic market as a U.S. dollar would buy in the United States.
- **Deposit interest rate** is the rate paid by commercial or similar banks for demand, time, or savings deposits.
- **Lending interest rate** is the rate charged by banks on loans to prime customers.
- **Real interest rate** is the lending interest rate adjusted for inflation as measured by the GDP deflator.
- **Food prices in PPP terms** are the prices in each country for bread and cereals and for meat relative to the U.S. price level for those goods.

Data sources

The information on exchange rate arrangements is from the IMF's *Exchange Arrangements and Exchange Restrictions Annual Report, 1999*. The official and real effective exchange rates and deposit and lending rates are from the IMF's *International Financial Statistics*. The estimates of parallel market exchange rates are from Currency Data & Intelligence's *Global Currency Report*. The PPP conversion factors and food prices are from the ICP and World Bank staff estimates. The real interest rates are calculated using World Bank data on the GDP deflator.